

ON SOME REPTILES AND AMPHIBIANS FROM THE
NORTHERN TERRITORY

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(Communicated by H. Womersley)

In herpetological literature of a century ago Port Darwin and Port Essington frequently appeared as type localities of considerable importance. Since those days relatively little has been added to our knowledge of the herpetofauna of Australia's Northern Territory. It was, therefore, with considerable satisfaction that the Museum of Comparative Zoology at Harvard University received part of the collections made during 1944 and 1945 by Mr. T. R. Tovell of the Australian Imperial Force, particularly so as it contained half-a-dozen species unrepresented in the museum's collection, of which one—*Typhlops towelli*—had to be described as new.

Unfortunately, the data accompanying the first consignment was not too precise. Subsequently, Mr. Tovell kindly supplied me with the following information about the localities which had originally been summarised as "near Darwin".

They are Batchelor, at about 60 miles south of Darwin; Berrima and Knuckey's Lagoon, about 9 miles; Koonowarra, about 7 miles; and Noonamah, about 24 miles south of Darwin.

TYPHLOPS TOVELLI (Loveridge)

Typhlops towelli Loveridge, 1945, Proc. Biol. Soc. Washington, 58, 111: Koonowarra Sports Ground, Northern Territory, Australia.

2 (M.C.Z. 48844-5), Koonowarra Sports Ground.

Midbody scale rows 20; snout rounded, nasal cleft proceeding from preocular. Diameters included in total length 36-40 times. Total length, 122 (118.5 + 3.5) mm.

TYPHLOPS GUENTHERI Peters

Typhlops (Onychocephalus) guentheri Peters, 1865, Monatsb. Akad. Wiss. Berlin, 259, pl. —, fig. 1: Northern Australia.

1 (M.C.Z. 48843), Batchelor.

Midbody scale-rows 18; snout rounded; nasal cleft proceeding from second labial. Diameter 2.75 mm., included in total length 63 times. Total length 175 (172.5 + 2.5) mm.

This blind snake appears to be closely related to *T. wiedii* Peters of Brisbane, Queensland. It would be interesting to know whether this black-tailed species carries the tail upraised like a false head, after the manner of the Asiatic *Mulicora*, the African *Chilorhinophis*, the American *Apostolepis*, etc.

NATRIX MAIRII MAIRII (Gray)

Tropidonotus mairii Gray, 1841, in Gray, Journ. Exped. West Australia, 2, 442: Australia.

11 hatchlings (M.C.Z. 48851-61), Wimmellie near Darwin.

Midbody scale-rows 15; ventrals 136-146; anals 2; subcaudals 56-61; upper labials 8, the third, fourth and fifth entering the orbit, except on right side of M.C.Z. 48858 where third and fourth are fused resulting in 7 labials; lower labials 8, the first five in contact with the anterior chin shield; preoculars 1,

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except on left side of M.C.Z. 48859 where there are 2; postoculars 3. Total length about 187 (147 + 40) mm.

These eleven young were taken from a batch of twelve eggs, one of which had already hatched, found about 20 April, i.e., at the beginning of the dry season, beneath a pile of rubbish. When found some eggs were single, others slightly cemented together in twos or threes. They measured approximately 25 x 16 mm. (T. R. T.).

Trinomials are necessary since the separation by Brongersma (1948) of a well-defined race in Dutch New Guinea.

CERBERUS RYNCHOPS AUSTRALIS (Gray)

Homalopsis australis Gray, 1842, Zool. Misc., 65: Port Essington, Northern Territory, Australia.

♀ (M.C.Z. 48846, 48862), Fanny Bay about 1½ miles from Darwin.

Midbody scale-rows 23-25; ventrals 143-144; anals 2; subcaudals 49-51; nostril cleft in contact with second labial; upper labials 8-10; separated from orbit by suboculars; 3-4 lower labials in contact with an anterior chin shield. Larger ♀ (M.C.Z. 48862), 587 (486 + 101) mm.

One was found lying at the bottom of a salt pan (T. R. T.). That *Cerberus*, and not *Hurria*, is the correct name for these water snakes was pointed out by Malcolm Smith (1930), and that *rynchops*, not *rhynchops*, was Schneider's original spelling by Loveridge (1948) when describing a new race and providing a key to the genus.

ASPIDOMORPHUS CHRISTIEANUS (Fry)

Pseudelaps christieanus Fry, 1915, Proc. Roy. Soc. Queensland, 27, 91, fig. 6: Port Darwin, Northern Territory, Australia.

♀ (M.C.Z. 48847), near Darwin.

Midbody scale-rows 17; ventrals 195; anals 2; subcaudals 47; labials 7, third and fourth entering the orbit. Total length 350 (300 + 50) mm.

This gravid ♀, which carries three eggs each measuring about 26 x 6 mm., has more ventrals and fewer subcaudals than the topotype ♂ already in our collection. That *Pseudelaps* of Duméril is a synonym of *Aspidomorphus* has been shown by Brongersma (1934, Zool. Med. Mus. Leiden, 17, 224).

DEMANSIA PSAMMOPHIS (Schlegel)

Elaps psammophis Schlegel, 1837, Phys. Serp., 2, 455: Australia. *Elopocephalus ornaticeps* Macleay, 1878, Proc. Linn. Soc. N.S.W., 2, 221: Port Darwin, Northern Territory, Australia.

♂ ♀ (M.C.Z. 48848-9), Batchelor and Berrima.

Midbody scale-rows 15; ventrals 180-181; anals 2; subcaudals 70 (♀) -91 (♂) pairs; upper labials 6, the third and fourth entering the orbit. Total length of ♂ (M.C.Z. 48848), 290 (232 + 58) mm.

The head of the young ♀ is black above and scarcely distinct from the deep black nuchal bar; the body is fawn, each scale with a somewhat paler edge. The head of the older ♂ is olive with the markings described by Macleay.

I follow Kinghorn (1942, 118), who has had the advantage of examining much more material, in relegating *ornaticeps*, of which these specimens are almost topotypes, to the synonymy. However, the name proposed by Macleay was *Elopocephalus*, not *Elopocephalus* as cited by Kinghorn. Kinghorn's conclusion appears to have been based largely on the highly variable colouration, known to change with age. I would suggest the possibility of a northern race with more numerous subcaudals for which the name *olivacea* Gray, 1842, would be available. If the Australian Museum's material could be sexed and arranged geographically to supplement that furnished by Boulenger (1896, 322-324), while ignoring Boulenger's arrangement based on colour, the point might be settled.

DEMANSIA TEXTILIS NUCHALIS (Günther)

Pseudonaja nuchalis Günther, 1858, Cat. Snakes Brit. Mus., 3, 227: Port Essington, Northern Territory, Australia.

♂ (M.C.Z. 48850), near Noonamah.

Midbody scale-rows 17; ventrals 197; anals 2; subcaudals 63+ pairs; upper labials 6-7 (left and right), the third and fourth entering the orbit. Total length of ♂, 1130+ (940 + 190+) mm.

HETERONOTA BINOCI Gray

Heteronota binoci Gray, 1845, Cat. Liz. Brit. Mus., 174; Houtman's Abrolhos, Western Australia.

18 (M.C.Z. 48801-6), Batchelor or Berrima.

Dorsal tubercles keeled, in 12-16 rows, usually 14; preanal pores of eight males 4-5. Largest ♂ (M.C.Z. 48801), 105 (48 + 57) mm.

By day these geckos hide under any object not of tin or iron, the heat of which is too great during the noon hours (T. R. T.).

DIPLODACTYLUS SPINIGERUS CILIARIS Boulenger

Diplodactylus ciliaris Boulenger, 1885, Cat. Liz. Brit. Mus., 1, 98, pl. viii, fig. 2: Port Darwin, Northern Territory, Australia.

Juv. (M.C.Z. 48807), near Darwin.

Dorsal tubercles flat, forming 2 ill-defined rows; no pores. Length, 53 (32 + 21) mm.

OEDURA RHOMBIFER Gray

Oedura rhombifer Gray, 1844, Zool. Erebus & Terror, Rept., pl. xvi, fig. 6: Australia.

♂ (M.C.Z.), near Darwin.

Dorsals granular, small; femoral pores 12 + 12, being separated in preanal region by five scales; tail depressed, oval. Length 87 (43 + 44) mm.

The shape of the tail conflicts with Boulenger's redescription and conforms to what has been noted by Kinghorn (1942, 120).

Since the separation of the African geckos under the name of *Afroedura* (Loveridge, 1944), the range of *Oedura* is restricted to the Australian region.

GEHYRA VARIEGATA AUSTRALIS Gray

Gehyra australis Gray, 1845, Cat. Liz. Brit. Mus., 163: Port Essington and Swan River, Australia.

♂ ♀ (M.C.Z. 48864-5), near Darwin.

Dorsals granular, small; preanal pores 14 in male; scanzors not separated by a median groove. Length of ♂, 124 (62 + 62) mm.; ♀, 109 (53 + 56) mm.

Taken in an old building at McMillan's (T. R. T.). *Gehyra* (part) Gray, 1834, antedates the use of *Peropus* Wiegmann, 1835, for this genus.

DIPORIPHORA BILINEATA Gray

Diporiphora bilineata Gray, 1842, Zool. Misc., 54: Port Essington, Northern Territory, Australia.

5 (M.C.Z. 48808-11), Batchelor or Berrima.

Gular fold absent; preanal pores 2 in male; tail twice the length of head and body. Length of ♂ (M.C.Z. 48808), 179 (52 + 127) mm.; ♀ (M.C.Z. 48809), 166 (55 + 111) mm.

TILIQUA SCINCOIDES SCINCOIDES (Shaw)

Lacera scincoides Shaw, 1790, in White, Journ. Voyage N.S.W., App., 242, pl. ———: New South Wales.

Juv. (M.C.Z. 48817), Berrima.

Midbody scale-rows 36; anterior temporal as long as interparietal; forelimb shorter than head and contained about twice in distance from axilla to groin. Length, 154 (102 + 52) mm.

In view of its small size the proportions of this skink are interesting for comparison with those of the New Guinea race—*T. s. gigas* (Schneider).

LYGOSOMA (SPHENOMORPHUS) TAENIOLATUM TAENIOLATUM (Shaw)

Lacerta taeniolata Shaw, 1790, in White, Journ. Voyage N.S.W., App., 245, pl. xxxii, fig. 1: New South Wales,
3 (M.C.Z. 48818-20), Batchelor or Berrima.

Midbody scale-rows 24-26; prefrontals separated. All three are immature.

Owing to the findings of Malcolm Smith (1937, 213), *Sphenomorphus* and *Leiopisma* are relegated with some misgivings to their former status of subgenera or, as Smith prefers to call them, "sections".

LYGOSOMA (SPHENOMORPHUS) FISCHERI Boulenger

Lygosoma fischeri Boulenger, 1887, Cat. Liz. Brit. Mus., 3, 228; n.n. for *L. muelleri* Fischer (preoc.), 1882, Arch. Naturg., 295, pl. xvi, fig. 16-19: Nicol Bay, Western Australia.

2 (M.C.Z. 48821-2), Batchelor or Berrima.

Midbody scale-rows 30; prefrontals separated; colouring characteristic. Length of ♀, 143 (49 + 94) mm.

Encysted nematodes are numerous on external surface of stomach.

LYGOSOMA (SPHENOMORPHUS) ISOLEPIS ISOLEPIS Boulenger

Lygosoma isolepis Boulenger, 1887, Cat. Liz. Brit. Mus., 3, 234, pl. xv, fig. 1: Nicol Bay and Swan River, Western Australia.

♀ (M.C.Z. 48823), Batchelor or Berrima.

Midbody scale-rows 30; lamellae beneath fourth toe 23. Length of ♀, 149 (72 + 77) mm., but tail-tip regenerated.

Agreeing in all respects with the typical form rather than with *L. i. forresti* Kinghorn (1932, 358), this gravid ♀ holds four eggs measuring about 12 x 7 mm.

LYGOSOMA (LEIOLOPISMA) PECTORALE (De Vis)

Heteropus pectoralis De Vis, 1885, Proc. Roy. Soc. Qld., 1, 169: Warro, Port Curtis, Queensland.

14 (M.C.Z. 48826-36), Batchelor or Berrima.

Midbody scale-rows 26-32; lamellae beneath fourth toe 19-27, in one specimen there are 24 on the right and 27 on the left toe. Largest ♂ (M.C.Z. 48826), 118 (41 + 77) mm.

In addition there were 13 damaged examples from same series or "near Darwin", which were not retained. All but two of them were of the strongly keeled *pectorale* type, two others with dark throats represent the synonym *nudum* De Vis (1885), their dorsal scales being almost smooth yet faintly tricarinate dorso-laterally.

A large specimen was recovered from the stomach of a *Lialis burtonis*. In the axilla of another of these skinks were some mites (*Trombicula* sp. n.), (or whose identification I am indebted to Mr. H. Womersley of the South Australian Museum. The species will be described in Mr. Womersley's forthcoming monograph.

LYGOSOMA (LYGOSOMA) PUNCTULATUM Peters

Lygosoma punctulatum Peters, 1871, Monatsb. Akad. Wiss. Berlin, 646, pl. —, fig. 5: Port Bowen, Queensland.

1 (M.C.Z. 48866), Winnellic, near Darwin.

Midbody scale-rows 20; digits 5; toes 5; lamellae beneath fourth toe 14. Length 118 (44 + 74) mm.

In life brown with a coppery sheen (T. R. T.).

LYGOSOMA (LYGOSOMA) PUMILIUM Boulenger

Lygosoma pumilium Boulenger, 1887, Cat. Liz. Brit. Mus., 3, 325: Cape York, Queensland.

2 (M.C.Z. 48834-5), Batchelor or Berrima.

Midbody scale-rows 20; digits 5; toes 5; lamellae beneath fourth toe 18-19. Larger measures 91 (41 + 50) mm.

The alleged difference in relative size of nostril and ear-opening between *pumilium* and *punctulatum* is not apparent. *L. pumilium* seems to be closely related to *crassicaudum* which Malcolm Smith (1937, 322) refers to his new section *Ictiscincus*.

ABLEPHARUS BOUTONII METALLICUS Boulenger

Ablepharus boutonii var. *metallicus* Boulenger, 1887, Cat. Liz. Brit. Mus., 3, 347: North Australia.

4 (M.C.Z. 48337, 48867), Batchelor or Berrima.

Midbody scale-rows 22-24; lamellae beneath fourth toe 17-20. Largest only measures 93 (38 + 55) mm.

In life iridescent grey with black markings. Found on trees and posts, not under logs or in grass. A very active skink (T. R. T.).

ABLEPHARUS LINEOCELLATUS LINEOCELLATUS Duméril and Bibron

Ablepharus lineo-ocellatus Duméril and Bibron, 1839, Erpét. Gén., 5, 817: Australia.

5 (M.C.Z. 48838-42), Batchelor or Berrima.

Midbody scale-rows 24-26; lamellae beneath fourth toe 17-18; supranasals absent. All young, the smallest only 29+ (14+ 15+) mm., its tail-tip missing. This little snake-eyed skink disgorged a spider.

DELMA FRASERI FRASERI Gray

Delma fraseri Gray, 1831, Zool. Misc., 14: Western Australia.

4 (M.C.Z. 48812-5), Batchelor or Berrima.

Snout as long as, or longer than, the distance between eye and ear; frontonasals in 2 pairs; fourth labial below eye; midbody scale-rows 16; anals 3, except in M.C.Z. 48814, where the wedge-shaped central scale fails to reach the anal border. Largest measures 75 mm. from snout to anus, tail missing.

All taken beneath rocks; quite common in this area (T. R. T.).

LIALIS BURTONIS Gray

Lialis burtonis Gray, 1834, Proc. Zool. Soc. London, 134: New South Wales, ♀ (M.C.Z. 48816), Berrima.

Rostral twice as broad as high; upper labials 14; preanal pores 4; colour form *punctulata*. Length of ♀, 260 (200 + 60) mm., but tail regenerating.

The oviducts of this gravid ♀ held two undeveloped eggs measuring about 20 x 12 mm. In its stomach is a skink (*Lygosoma pectorale*) measuring 49 mm. from snout to anus.

CYCLOBANA AUSTRALIS (Gray)

Alytes australis Gray, 1842, Zool. Misc., 56: North coast of Australia, i.e., Port Essington, Northern Territory, Australia.

2 (M.C.Z. 26002), McMillans, near Darwin.

These juvenile forms are so shrivelled by immersion in strong formalin that their habits might be described as "slender", *i.e.*, in this respect referable to *alboquittatus* (Günther) of Parker's (1940, 16) key, which differentiates the two species as follows:

Zygomatic process of the squamosal heavily sculptured and forming a broad suture with the maxilla. Habitus stout	<i>australis</i>
Zygomatic process not sculptured and separated from the maxilla, or only very narrowly in contact with it. Habitus slender	<i>alboquittatus</i>

But Parker (1940, 20) is mistaken in referring part of my (1935, 13) *alboquittatus* to the synonymy of *australis* and suggesting that the frog (M.C.Z. 11647) from Alexandra (*not* Alexandria), Northern Territory, is really an *australis*. It is true that the frog was received from the British Museum in 1925 as "*Phractops australis*" (presumably identified by Boulenger), but both in zygomatic structure and colour pattern it agrees with *alboquittatus*. That the British Museum skeleton of another frog taken at Alexandra by the same collector happens to be *australis* is interesting, for Parker records both species as occurring at Port Denison, Queensland. Despite their close relationship the two species are quite distinct.

The larger frog measured 45 mm. and was taken in a ditch of stagnant water about six miles north of Darwin, the smaller was in sand behind the beach at Lee Point about ten miles north of the town (T. R. T.).

LIMNODYNASTES CONVEXIUSCULUS (Macleay)

Ranaster convexiusculus Macleay, 1828, Proc Linn Soc. N.S.W., 2, 135; Katow, *i.e.*, Binaturí River, Dutch New Guinea.

5 (M.C.Z. 26003-7), near Darwin.

Vomerine teeth extending well beyond lateral borders of choanae; first and second fingers subequal; inner metacarpal tubercle slightly longer than the second; a single metatarsal tubercle which is not shovel-shaped. Largest (M.C.Z. 26003) measures 50 mm.

In life: Above, marbled with black and grey; the spots sometimes finely edged with white. Below, white verniculated (with brown). (T. R. T.)

This species has been recorded already from Darwin by Parker (1940, 54). As he has seen the type of *L. olivaceus* De Vis, which he refers to the synonymy of *convexiusculus*, it must be assumed that De Vis' description of *olivaceus* as having two metatarsal tubercles is erroneous. Parker is quite correct in concluding my (1935, 19) *L. salmini* Steindachner is a composite, for both Queensland frogs (M.C.Z. 3610, 3623) conform to his new definition of *convexiusculus*.

UPEROLEIA RUGOSA (Andersson)

Pseudophryne rugosa Andersson, 1916, Svenska Vetensk.-Aka. Handl., 52, No. 9, 31; pl. i, fig. 4: Colossenm, southern Queensland.

1 (M.C.Z. 25991), Noonamah.

If correctly identified, this 18 mm. juvenile is the first example of *rugosa* to be recorded from the Northern Territory. Also the first of its species in the Museum of Comparative Zoölogy, for I (1935, 31) erred in making *rugosa* a subspecies of *marmorata* and the five frogs then referred to *U. m. rugosa* are simply *marmorata*. As the ranges are largely co-extensive, Parker (1940, 70) did not detect my mistake and the citation on his p. 70 should be transferred to p. 69.

CRINJA SIGNIFERA SIGNIFERA Girard

Crinia (Ranidella) signifera Girard, 1853, Proc. Acad. Nat. Sci. Philadelphia, 6, 421: "New Holland," *i.e.*, Australia.

8 (M.C.Z. 35999-26000) Knuckey's Lagoon.

All are juvenile, the largest measuring only 12 mm. Six of them were taken beneath a pandanus trunk (T. R. T.).

This is the form to which Darwin frogs are referred by Parker (1940, 87), whose synonymizing of my 1935 references is probably correct, for I utilised or stressed other characters in defining the species of this difficult genus which he has so thoroughly revised.

HYLA CAERULEA (Shaw)

Rana caerulea Shaw, in White, Journ. Voyage N.S.W., App., 248, pl. —; New South Wales.

4 (M.C.Z. 25992-3), Berrima.

Vomerine teeth between the posterior borders of the choanae, from which they are well separated: head as long as, or shorter than, broad; snout once and a half as long as eye; tympanum two-thirds to seven-eighths the orbital diameter; outer finger half webbed; heel of adpressed hind limb reaches the tympanum or eye. Length of ♂ (M.C.Z. 25992), 72 mm., of ♀, 74 mm.

The largest was taken at night on rocky ground, the others between sheets of galvanised iron at Larrakeyah Barracks (T. R. T.).

HYLA RUBELLA Gray

Hyla rubella Gray, 1842, Zool. Misc., 57: Port Essington, Northern Territory, Australia.

♀ (M.C.Z. 23998), Knuckey's Lagoon.

Vomerine teeth between the posterior borders of the choanae: head longer than broad; snout *once and a half* as long as eye; tympanum two-thirds the orbital diameter; outer finger without web; heel of adpressed hind limb reaches shoulder. Length of gravid ♀, 32 mm.

HYLA AUREA (Lesson)

Rana aurea Lesson, 1830, Zool. in Duperrey, Voyage autour du Monde . . . sur . . . La Coquille, 2, 60, pl. vii, fig. 2: Macquarrie and Bathurst Rivers, New South Wales.

5 (M.C.Z. 25994-5), Knuckey's Lagoon.

Vomerine teeth between the choanae; head as long as, or longer than, broad; snout once and a half as long as eye; tympanum three-quarters of, or equal to, the orbital diameter; outer finger without web. Too shrivelled to be worth measuring.

HYLA NASUTA (Gray)

Pelodytes nasuta Gray, 1842, Zool. Misc., 56: Port Essington, Northern Territory, Australia.

2 (M.C.Z. 26001), near Darwin.

Vomerine teeth between the choanae; head much longer than broad; snout twice as long as the eye; tympanum seven-eighths, or equal to, the orbital diameter; outer finger without web; heel of the adpressed hind limb reaches beyond tip of snout. Larger measures 43 mm.

In life greenish-black with a broad brown stripe down centre of back. Found among leaves after burning of spear grass at McMillan's, about six miles from Darwin (T. R. T.).

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